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PRODUCT OR PROCESS--IMPLICATIONS FOR DECISION-MAKING.

BY- HOSFORD, RAY E.

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THE IMPORTANCE OF ASSISTING STUDENTS IN THE DECISION-MAKING PROCESS IS EXPLORED. COUNSELORS ASSIST STUDENTS IN LEARNING HOW TO MAKE DECISIONS. A DECISION SHOULD BE EVALUATED IN TERMS OF THE PROCESS USED TO ARRIVE AT IT RATHER THAN IN TERMS OF THE RESULTING CHOICE. KNOWLEDGE OF ALTERNATIVES, POSSIBLE OUTCOMES, AND THE PROBABILITY FOR SUCCESS OF EACH OF THE OUTCOMES ARE NECESSARY FOR SCIENTIFIC DECISION-MAKING. NEW COUNSELING PROCEDURES HAVE BEEN PROPOSED AND EXPERIMENTALLY STUDIED TO PROMOTE THIS TYPE OF BEHAVIOR. MODEL-REINFORCEMENT AND REINFORCEMENT COUNSELING HAVE BEEN SHOWN TO BE EFFECTIVE IN MOTIVATING STUDENTS TO SEEK AND USE INFORMATION PRIOR TO MAKING DECISIONS. RESULTS OF SEVERAL RESEARCH STUDIES UTILIZING SUCH PROCEDURES ARE PRESENTED. OTHER STUDIES USING COUNSELING TECHNIQUES DERIVED FROM RESEARCH IN LEARNING HAVE ALSO PROVED EFFECTIVE IN PROMOTING GOOD DECISION-MAKING PROCEDURES. THESE TECHNIQUES INCLUDE VERBAL REINFORCEMENT, USE OF PROGRAMMED BOOKLETS, AND PARTICIPATION IN SIMULATED EXPERIENCES. THESE TECHNIQUES HAVE ALSO HELPED STUDENTS GAIN SKILLS NECESSARY FOR MEETING DECISION-MAKING PROBLEMS. THIS PAPER WAS PRESENTED AT THE AMERICAN PSYCHOLOGICAL ASSOCIATION CONVENTION, WASHINGTON, D.C., SEPTEMBER, 1967. (SK)

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PRODUCT OR PROCESS: IMPLICATIONS FOR DECISION-MAKING

Ray E. Hosford

University of Wisconsin

For quite some time counselors have heard that one of the major purposes of guidance and counseling is to assist students in making educational and vocational decisions. McDaniel et al. (1959), for example, point out that the primary purpose of school guidance and counseling must be that of helping students develop their capacities for subsequent decision-making. Writers in the field such as Rothney (1958), Tyler (1958), Gelatt (1962), Wrenn (1962) and Krumboltz (1966) all firmly support the importance in guidance and counseling of assisting students in the decision-making process.

How well, then, are we counselors accomplishing this major objective of counseling? According to John Finley Scott (1967), we're not doing very well. His recent pamphlet, "So You Are Going to College," cautions parents and students, "Don't rely on your high school counselors...About two-thirds of the students in a survey of opinion about preparing for college named their high school counselor as the person who gave them the worst advice, indicating that their counselors were, among other things, generally ill informed." A recent survey by Dahl (1967) carried out at the University of Wisconsin does little to refute Scott's claims. Dahl interviewed 53 college males regarding their occupational goals and the help received in making vocational decisions. In summarizing his findings, Dahl states, "It seems that most of the results regarding the help given to them by their guidance counselor in high school were very negative; over 70% regarded their high

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school counselor as having no effect on their selection of career or college," In addition, some 50% of the college men surveyed were still highly concerned over their inability to make a career decision.

We could, of course, argue the validity of these studies. A more fruitful approach, however, may be to admit that our efforts have not always been too successful and possibly we need to re-evaluate the ways in which we have been attempting to help students with educational and vocational planning.

The Need for Good Decision-Making

The need for good decision-making by students is all too evident. The educational choices a young person makes certainly will affect to a large extent his future income, friends, job satisfaction, way of life, and even the kind of person he will marry. Yet, it appears that many young people make these decisions rather haphazardly without any due consideration to the process involved. Hagoon (1964), for example, contends that effective educational and vocational planning is rarely present among adolescents or adults in our culture. Gardner (1964, p. 59) even warns that "One of the clearest dangers in modern society is that men and women will lose the experience of participating in meaningful decisions concerning their own life and work, that they will become cogs in the machine because they feel like cogs in the machine."

Students are continually confronted with situations wherein they must choose between alternative courses of action. Counselors cannot and should not assist the student in making every decision but we can assist every student in learning how to make a decision. Perhaps the reason why we have not been too effective in helping students make wise educational and vocational choices is that we have focused too long on the product of

the decision that a student makes rather than the process by which he makes it. It could well be, as Gardner's warning implies, that being too interested in seeing that the student makes the "right" decision, we, in effect, have done little to involve him in the important experience of learning the steps involved in making a decision.

What Constitutes a Good Decision?

A good decision should be evaluated relative to the process used in making the decision rather than the particular choice that the student makes. Some students jump to conclusions while others vacillate from one side of the question to the other because they have never learned to proceed systematically in making a decision. For many the process is complicated because they lack the information and experiences from which they can base even the most tentative decision. Since decision-making is, in effect, a learned behavior, students can become good decision-makers in much the same way as they can become skilled mathematicians, good basketball players, or accomplished artists.

Learning to Make Good Decisions

The basic and necessary prerequisites for scientific decision-making are knowledge of the possible alternatives, possible outcomes, and the probability of success for each of the outcomes (Gelatt, 1962).* Krumboltz and Thoresen (1964) point out "In vocational and educational counseling, students need help in formulating reasonable alternatives, discovering the likelihood that they will be successful in each alternative they consider, finding relevant information about each alternative and where it would lead to if they were successful, considering the relative values associated with

*For a more detailed discussion of scientific decision-making see Cronbach and Gleser 1957.

each outcome, and weighing all these factors carefully in arriving at a tentative decision." The essential criterion then, in helping students develop good decision-making ability, is to aid them in learning how to collect and analyze information relevant to alternative courses of action. Since many students have never learned how to collect and utilize relevant information, counselors need to employ techniques and procedures which promote this behavior.

New Counseling Procedures

Recently a series of experimental studies has demonstrated quite conclusively that specific counseling techniques termed model-reinforcement and reinforcement counseling can be used effectively to motivate students to seek and utilize information about future plans before making crucial decisions. Most of us, whether we realize it or not, can learn much by observing the behavior of others. Recent research in counseling has shown that the observation of appropriate social models can be a very effective procedure in helping students learn how to behave in predicted ways outside the counseling interview. This procedure, termed model-reinforcement counseling, consists of presenting an audio or video tape recording of a counselor-student interview in which the student on the tape models the desired behavior and is verbally reinforced by the model counselor. Studies by Krumboltz and his associates (Krumboltz & Schroeder, 1965; Krumboltz & Thoresen, 1964; Krumboltz, Varenhorst & Thoresen, in press) have clearly demonstrated that model-reinforcement counseling procedures are very effective in causing students to consider several possible alternative courses of action and to actively seek information on these alternatives before making career decisions.

Krumboltz and Schroeder investigated both model-reinforcement and reinforcement counseling techniques on the information-seeking behavior of 54 high school juniors. Reinforcement counseling consisted of the counselor verbally reinforcing any student statement during the counseling interview which indicated that the student was presently seeking or intended to seek information relevant to his own educational or vocational plans. For example, if the student mentioned that he might talk to people who have gone to the various colleges he was considering before making his decision, the counselor would reply, "Very good," "Good idea," or give some other type of reinforcement. The model-reinforcement procedures consisted of presenting an audio tape of a counselor-student interview in which the counselee on the tape discussed ways in which he might gain relevant information concerning his alternatives and was verbally reinforced by the model counselor. After listening to the audio tape, the student was then reinforced by the experimental counselor for verbal rexponses that indicated imitation of the model's behavior.

When reinforcement counseling procedures alone were used, the counselor verbally and non-verbally rewarded the student for any information-seeking response during the interview. The criterion adopted for the study was the number and variety of information-seeking activities engaged in by the student within a three-week period following the experimental counseling. The behaviors included such activities as: (1) Obtaining printed information from the guidance department, school library, etc.; (2) Contacting people connected with a vocational area; (3) Contacting people connected with an educational institution; (4) Seeking to change high school courses because of changed goals or interests; (5) Asking to take psychological tests; and (6) Reporting that a tentative decision was made at least partially on basis of the information gained.

Follow-up interviews with the students were conducted at the end of the time period by individuals not otherwise connected with the study. The findings indicate that: (1) Those students exposed to reinforcement or model-reinforcement counseling sought significantly more information relative to their career decisions than did similar students not exposed to such counseling; (2) Reinforcement-only counseling produced significantly more information-seeking among females than among controls, but this did not hold true for males; (3) For males, model-reinforcement counseling produced significantly more information-seeking behavior than control procedures; and (4) The ratio of information-seeking responses to other responses in the interview was positively correlated with external information-seeking behaviors. (In other words, the more the student discussed things he might do to gain career information, the more apt he was to actively seek the information after leaving the counseling interview.)

The authors suggest that model-reinforcement counseling may have been more effective for males than for females because the model was a male who discussed only male interests and concerns. In addition, eight of the nine experimental counselors were female, which the authors postulate may have been a factor in the effectiveness of the reinforcement-only counseling. A later study, however, demonstrated that being counseled by a male counselor was the most important variable for both females and males relative to promoting information-seeking behavior through model-reinforcement counseling procedures (Thoresen, Krumboltz & Varenhorst, 1965).

Significant results for the use of social models in counseling were also found by Krumboltz and Thoresen (1964). The study represented a replication and extension of the investigation by Krumboltz and Schroeder

discussed above. The problem of this study was to determine which of the two counseling techniques investigated in the earlier study would be more effective when applied in dyadic or small group settings. The major findings of this investigation were: (1) Model-reinforcement and reinforcement counseling were both significantly more effective in promoting information-seeking behavior in both individual and group settings than were two control group counseling procedures; (2) Model-reinforcement counseling was more effective than reinforcement counseling for males; and (3) Model-reinforcement group counseling was more effective for males than individual model-reinforcement counseling. For girls no significant differences were found between reinforcement and model-reinforcement procedures or between the types of group settings.

The results of a study by Krumboltz, Varenhorst, and Thoresen (in press) indicates that model-reinforcement counseling can also be very effective with high school females. These authors found that providing a video tape of a female counselor talking with a female student about ways of obtaining information was more effective in motivating students to collect and utilize relevant career information before making decisions than was telling students to do the same things in a regular dyadic face-to-face counseling interview.

These studies indicate that counselors can effectively use specific procedures that will result in students' collection and utilization of relevant career information necessary in the process of good decision-making . The counselor's warm approval and support of various statements during the counseling interviews resulted in the student voluntarily seeking information relative to several alternative courses of action before making a decision. Tape recorded models were also very effective with male subjects for promoting

this behavior as were video tape models with female students. These results would suggest that students can improve some aspects of their decision-making when counselors use specific procedures designed to promote this behavior.

Other studies indicate that other behaviors necessary to good decision making can be effectively promoted by certain counseling techniques derived from research in learning. Ryan (1963) has shown that the counselor can help students who vacillate from one alternative to another to make a decision by systematically reinforcing the student during the counseling interview for responses which indicate definite steps toward making the decision. In the same study, she showed that impulsive decision-makers reinforced for deliberation responses did, in fact, deliberate over the alternatives longer before making their decision.

Gelatt (1964) tested the effect of the knowledge of success probability at various colleges on the decision-making of students who had high school grade point averages of below 2.95 but who had selected colleges or universities requiring rather high academic requirements. He used a programmed booklet in which students systematically determined their probabilities of success at various colleges on the basis of their previous high school grades. His results indicated that knowledge of the dissonant outcome data did influence students to make their college choices in the direction of more likely outcomes. This self-study procedure was particularly more effective for boys than was counselor interpretation of the probability data.

Providing simulated vocational problems may also have possibilities for improving students' vocational decision-making. Krumboltz and Sheppard (in press) involved some 540 high school students in a study to determine whether participation in realistic problem-solving experiences similar to

those solved by members of various occupations would promote career interest and exploration. Three different procedures were evaluated. In one, students in small groups were given problem-solving kits in accounting. The second sub-groups received equivalent descriptive information on accounting but did not actively engage in the problem-solving experiences. In the third, students in small groups were presented with general information about occupations and the importance of planning one's future career. The results of the study showed that students in the problem-solving and accounting information groups reported a greater interest and exploration in the field of accounting than did the general information control group. For half of the sub-groups, the problem-solving counseling stimulated significantly more career relevant information-seeking than the other two procedures. Additional studies are now underway to determine the effect of other realistic problem-solving experiences on the subsequent career interests and information-seeking of students.

Summary

If counselors are to help students make career plans effectively, it seems imperative that we shift from a product (right decision) to process orientation in decision-making. From this point of view the main task for counselors is to assist the individual in learning those behaviors necessary for good decision-making. When counselors can aid students in learning how to construct alternative behaviors, seek relevant information about each alternative, weigh the possible outcome and values of each alternative, and formulate tentative plans of action, students will gain the skills necessary for meeting new decision-making problems in the future.

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